

Application Serial No.: 10/726,164
Amendment dated April 13, 2005
Response to Office Action dated February 7, 2005

REMARKS

Claim 36 was objected to for referring to "device" not found in claim 35. Applicant has amended claim 35 to recite a device such that claim 36 is now in proper dependent form. Applicant submits that the claims as amended satisfy the requirements of 37 C.F.R. 1.75 (c)

Claims 1-30 and 35-37 were rejected under 35 U.S.C. 103 (a) as being unpatentable over Anticole in view of Smith et al. Anticole is a protection monitor based upon calculating temperatures. The calculated temperatures are compared to pre-programmed temperature limits wherein the limits initiate action with respect to the production of current commands. More particularly, Anticole calculates a differential temperature, which is in turn added to a measured referenced temperature. Rather than using temperature to dynamically generate a current limit as described in Applicant's invention, Anticole uses temperatures directly for comparison with pre-programmed temperature limits instead.

In accordance with Applicant's invention, commands for current are subjected to dynamically calculated current limits. This is particularly valuable in embodiments where calculations are being made with respect to a plurality of different components. A lowest of the dynamically generated current limits can be selected for use in limiting commands for current. In accordance with Anticole however, temperature comparisons for each of the components may need to be made individually, particularly where associated limits differ in view of the differences between the components. When the dynamic calculations for different components are each used to calculate current limits in embodiments of Applicants' invention, a simple lowest limit is easily identified for use in limiting commands for current.

The Examiner also cites to Smith et al. Smith et al. fails to satisfy any of the deficiencies of Anticole. Smith et al. merely discloses a current limit backup circuit for restricting the level of power supply to a robot drive motor. The limit is applied to each of a number of motors used in the automated library system of Smith et al. Smith et al. provides no disclosure of a current limit dynamically determined in response to temperature. Smith et al. merely describes setting the current limit at a safe level while a service operator is working in the library. Smith et al. provides no suggestion, disclosure or teaching of how to

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combine dynamically generated information with respect to current limits as to a plurality of motors.

Claim 1 requires a "limit dynamically determined" for a "command for current." Rather than determining such a limit, Anticole teaches determining a differential temperature for adding to a reference temperature for comparison with a number of pre-programmed set points. Depending upon the set point, the system of Anticole will respond appropriately with cooling, annunciation, fold back or shut down. Smith et al. merely shows a preset limit and does not satisfy the deficiencies of Anticole. Therefore, claim 1 or all claims depending therefrom should be allowed.

Claim 7 requires the act of "dynamically determining a first level of current that will not overheat a first component." This act is also performed with respect to a second component. Anticole determines temperature rather than current limit. Smith et al. does not disclose dynamic determination of a current limit. For these reasons claim 7 and all claims depending therefrom should be allowed.

Claim 19 recites "dynamically determining a first limit." The limit set by Anticole is a pre-determined temperature. Anticole calculates a differential temperature to be added to a reference temperature for comparison with the pre-determined set points. The dynamic determination of limits for commands for current is neither taught nor suggested by Anticole nor Smith et al. For these reasons, claim 19 and all claims depending therefrom should be allowed.

Claim 27 is directed to program code for performing the method including program code for dynamically determining a first limit. Claims 27 and 28 should be allowed for the reasons set forth above. Likewise, the computer program products of claims 29 and 30 should be allowed.

Claim 35 recites "dynamically determining a current command limit." Further in accordance with claim 35, a "lowest of the dynamically determined current command limits" is applied to each of the respective motors. Whereas Anticole does not determine current command limits, the ability to select a lowest of the limits is not available. Rather, each temperature calculation and comparison must be individually made. Smith et al. does not suggest a dynamically determined limit and therefore has no need and does not suggest

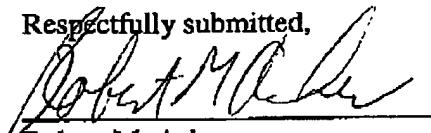
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the act of applying a lowest of a plurality of dynamically determined current command limits. For these reasons, claim 35 and claims 36 and 37 are allowable over the art of record.

Applicants gratefully acknowledge the allowance of claims 31-34.

For all the foregoing reasons, Applicants submit that all claims presently pending in the application are allowable over the art of record and early notice to that effect is respectfully solicited.

Respectfully submitted,



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